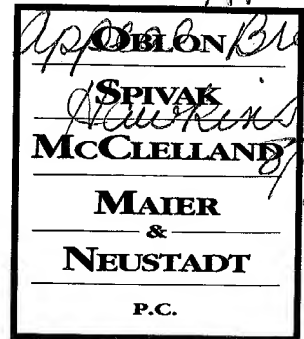




RECEIVED  
JUL 22 2002  
TC 2800 MAIL ROOM



Docket: 0107-0997-3

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

ATTORNEYS AT LAW

GREGORY J. MAIER  
(703) 413-3000  
GMAIER@OBLON.COM

RAYMOND F. CARDILLO, JR.  
(703) 413-3000  
RCARDILLO@OBLON.COM

Re: Group Art Unit: 2834  
Serial No.: 09/220,055  
CPA Filed: AUGUST 14, 2000  
Applicant: REINHARD JOHO, ET AL.  
For: LAMINATED STATOR BODY FOR AN  
ELECTRICAL MACHINE

Attached hereto for filing are the following papers:

**REQUEST FOR APPEAL REINSTATEMENT AND SUPPLEMENTAL  
BRIEF WITH APPENDIX (in triplicate)  
CERTIFIED ENGLISH TRANSLATION OF JP NO. 1-126141 (in triplicate)**

Our check in the amount of \$ - 0 - is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND  
MAIER & NEUSTADT, P.C.

Gregory J. Maier  
Registration No. 25,599  
Attorney of Record  
Raymond F. Cardillo, Jr.  
Registration No. 40,440



22850

(703) 413-3000  
GJM/RFC/jmp

1755 JEFFERSON DAVIS HIGHWAY ■ FOURTH FLOOR ■ ARLINGTON, VIRGINIA 22202 ■ U.S.A.  
TELEPHONE: 703-413-3000 ■ FACSIMILE: 703-413-2220 ■ WWW.OBLON.COM

0107-0997-3

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF:

REINHARD JOHO ET AL.

SERIAL NO: 09/220,055

CPA FILED: AUGUST 14, 2000

FOR: LAMINATED STATOR BODY  
FOR AN ELECTRICAL MACHINE



GROUP ART UNIT: 2834

: EXAMINER: PEREZ, G.

RECEIVED  
JUL 22 2002  
TC 2800 MAIL ROOM

REQUEST FOR APPEAL REINSTATEMENT AND SUPPLEMENTAL BRIEF

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

This is a request for reinstatement of the appeal in the above-identified application and a supplemental appeal brief filed in accordance with 37 CFR §1.193 (b) (2)(ii).

This reinstated appeal is from the rejections of Claims 1-15 in the new Office Action mailed April 17, 2002, hereinafter referred to as the new OA. A Notice of Appeal was timely filed on December 6, 2001 with an appropriate extension of time.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is ASEA BROWN BOVERRI AG. having a place of business at CH-5401 Baden, Switzerland.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative, and the assignees are aware of no appeals which will directly affect or be directed affected by or have a bearing on the Board's decision in this appeal.

### III. STATUS OF CLAIMS

Claim 1-15 stand more than twice rejected, which forms the basis for this appeal.

### IV. STATUS OF THE AMENDMENTS

No amendments have been filed after the new OA. The attached Appendix reflects the claims as last amended on March 26, 2001

### V. SUMMARY OF THE INVENTION

The present invention is directed to a laminated stator body for an electrical machine which is made up of a multiplicity of lamination segments (1) that are arranged next to each other in both a circumferential direction and in an axial stacking direction to form a laminated stator body as explained at page 3, lines 24-27 of the specification, for example. Each of these lamination segments (1) are provided with slots (2) for stator windings on a radial inside thereof, with these slots all arranged in alignment when the stator body is formed as explained at page 3, lines 27-28 of the specification, for example. Each slot (2) extends from the radial inside to a root portion nearest to a radial outside of each segmental lamination ( $N_T$ ), with the portion of each segmental lamination remaining between the root portion and the radial outside defining a yoke height ( $J_H$ ) as shown in FIG. 1, for example. Each of the lamination segments (1) is further provided on its radial outside with periodically distributed notches which extend inwardly toward the radial inside a distance illustrated as  $K_T$  in FIG. 1, for example. These notches are filled only by the surrounding atmosphere that exists around the stator body and are also all of equal dimensions including the notch depth ( $K_T$ ) that is much less than yoke height ( $J_H$ ) as shown in FIG. 1, for example. The number and depth of the notches is selected to increase mechanical strength

by reducing vibration amplitudes during operation by reducing the resonate frequency below the rotational excitation frequency. See page 2, lines 30-38 and page 4, lines 20-36 of the specification, for example.

## VI. ISSUES

The issues are (1) whether or not the subject matter of Claims 1, 3-7, 9-13, and 15 would have been anticipated under 35 U.S.C. §102(b) by or, in the alternative, would have been obvious over Oshima (JP 55-86340) under 35 U.S.C. §103(a), (2) whether or not the subject matter of Claims 1, 3-7, 10-13, and 15 would have been over Yoshihiko (JP 01-126141) in view of Oshima, (3) whether or not the subject matter of Claims 2 and 7-13 would have been obvious under 35 U.S.C. §103(a) over Yoshihiko in view of Oshima in further view of Hershberger (U.S. Patent No. 3,421,034), (4) whether or not the subject matter of Claims 3 and 5 would have been obvious under 35 U.S.C. §103(a) over Yoshihiko in view of Oshima in further view of Sacher (DE 195 10 729 A1), (5) and whether or not the subject matter of Claim 14 would have been obvious under 35 U.S.C. §103(a) over Yoshihiko in view of Oshima and further in view of Hershberger and Sacher.

## VII. GROUPING OF THE CLAIMS

Claims 1, 3-7, 9-13, and 15 form a first group as to the first alternative rejection issue noted above and Claims 1, 3-5 and 9-13 thereof will stand or fall separately in this group and are argued separately below. Claim 15 of the first issue group will stand or fall with Claim 1. Similarly, Claims 1, 3-7, 10-13 and 15 form a second group relative to the second issued noted above and Claims 1, 3-7, and 10-13 will stand or fall separately in this group and are argued separately below. Again, Claim 15 will stand or fall with Claim 1 of this second

group. Claims 2 and 7-13 form a third group that will stand or fall separately and are argued separately below as to the third issue. Claims 3 and 5 form a fourth group that will stand or fall separately and are argued separately below as to the fourth issue. Claim 14 will stand alone as to the fifth issue and is argued separately below.

## VIII. ARGUMENT

### A. OSHIMA TEACHINGS NOT PROPERLY INTERPRETED

Page 3 of the new OA misinterprets the dovetail guide grooves 5 of Oshima as being readable on the Claim 1 “notches” recited as “being filed only with an atmosphere.” It is clear from Figures 1 and 2 of Oshima that at least some of these dovetail guide grooves 5 will be filled with “the dovetail of a rib bar 7” as stated in lines 1-4 of the “CONSTITUTION.” There is no teaching or suggestion that all of these dovetail guide grooves will be left open.

Clearly, without such a teaching or suggestion, no *prima facie* case of anticipation or obviousness has been established and this ground of rejection applied as to Claims 1, 3-7, 9-13, and 15 should be reversed for this reason alone.

In addition, and as recognized on page 3 of the new OA, there is no teaching or suggestion in Oshima of the Claim 1 functional limitation of selecting “the number and depth of notches” to “increase mechanical strength by reducing vibration amplitude during machine operation.” Such functional limitations must be given weight. See In re Angstadt, 190USPQ 214, 217 (CCPA 1976).

The new OA then suggests that even though the dovetail guide grooves 5 of Oshima serve an entirely different purpose and even though there is no hint in Oshima that the number or depth of the notches is in any way relevant to increasing “mechanical strength by reducing vibration amplitude during machine operation,” the artisan would have some reason

to optimize the number and depth of the Oshima dovetail guide grooves 5 to achieve a result not even hinted at by Oshima. In this regard, In re Antonie, 195 USPQ 6, 8 (CCPA 1977) makes it clear that there must be prior art based evidence that shows that the artisan would have known that the variable to be optimized was one that should be optimized relative to achieving a known result. Nothing in the decision relied on in the new OA (In re Boesch, 617 F. 2d 272, 205USPQ 215 (CCPA 1980)) changes the requirement as to the PTO showing that the parameters of depth and number of notches provided were result effective variables as set forth by In re Antonie, *supra*.

Again, the lack of a PROPER *prima facie* case of obviousness including such a showing requires reversal of the obviousness rejection applied to Claims 1, 3-7, 9-13, and 15 over Oshima.

Having ignored the Antonie precedent that limits the Boesch rule as to optimization of a KNOWN result effective variable as to Claim 1, the new OA goes on to improperly reject Claims 3 and 5 by again improperly applying the Boesch rule. Thus, page 3 of the new OA suggests that even though there is no hint in Oshima of the number of dovetail guide grooves 5 having any effect on reducing any vibration amplitudes and no hint of any relationship to the number of slots, it would nevertheless be obvious to optimize this number of guides to be twice the number of slots (Claim 3) or equal to the number of slots (Claim 5) based on an improper expansion of the Boesch that is expressly prohibited by Antonie.

Clearly, no *prima facie* case of anticipation or of obviousness has been established as to Claim 3 or Claim 5 subject matter, and the rejection of these claims over Oshima should also be reversed on these grounds.

Turning to Claims 4 and 6, the new OA admits that Oshima also does not teach or suggest the Claim 4 requirement that notch depth is about 20% of yoke height or the Claim 6

requirement that notch depth is about 40% of yoke height. It is also noted that because of dependency, each of these claims requires a different number of notches relative to the number of slots that are present, further subject matter also not taught or suggested by Oshima as fully treated above.

Clearly, the anticipation allegation as to Claims 4 and 6 and Oshima is totally without merit and this rejection of Claims 4 and 6 as anticipated by Oshima must also be reversed.

As to the obviousness rejection applied to Claim 4 and 6 over Oshima, the improper reliance upon the Boesch decision as rendering any optimization of a result determining parameter obvious is once more in error as there is no evidence of prior art recognition of the result depending upon the variable presented here.

Accordingly, this obviousness rejection of Claims 4 and 6 should also be reversed as clearly lacking the required *prima facie* showing.

Clearly, the anticipation rejection of Claims 7 and 9-13 cannot stand as there is no hint of dovetail guide grooves 5 having a width between .5 mm and 1 mm. Furthermore, Claim 9 depends on Claim 2, a claim not rejected as being anticipated by or as being obvious over Oshima taken alone. Clearly Claim 9 that depends on Claim 2 cannot be so rejected.

With regard to the alternative obviousness rejection of Claims 7 and 9-13 over Oshima, page 4 of the new OA attempts to use In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1953) in the same improper way Boesch was used as to the claims from which each of these claims depend by ignoring that it is only the teachings of the present application that point to some reason to optimize the widths to achieve benefits not taught by Oshima. Antonie again requires this improper reliance upon optimization be itself rejected and the rejection of Claims 7 and 9-13 based upon obvious over Oshima considered alone be reversed.

## B. YOSHIHIKO TEACHINGS HAVE BEEN IMPROPERLY EXPANDED

Page 4 of the new OA appears to improperly rely on Fig. 2 of Yoshihiko as teaching notches should be filled with only air. What Yoshihiko actually teaches is that such air filled notches are to be avoided. See the enclosed translation of Yoshihiko teaching the use of filled notches to reduce vibration resulting from air filled notches.

As previously noted, In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) establishes that when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference and that it is improper for the PTO to attempt to read non-existent teachings into a reference. In this regard, the notches 12 and yoke height of Fig. 2 do not have the relationship called for by Claim 1 and this construction is noted to increase vibrations during machine operation, not reduce them. Clearly, the reliance upon Yoshihiko is misplaced. See In re Fine, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) and its indication that the purposes behind any reference teaching must be considered and negative teachings pointing away cannot be arbitrarily taken as pointing to the thing pointed away from.

The need for a proper factual basis for any rejection has been further emphasized by In re Sporck, 133 USPQ 360, 364 (CCPA 1962) (“We are unwilling to substitute speculation and hindsight appraisal of the prior art for such factual data.”) and more recently by In re Zurko, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) as follows:

With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience — or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings. [Emphasis added, footnote omitted.]

Just as the Board must be able to “point to some concrete evidence in the record” so must the examiner point to concrete evidence in Yoshihiko that actually teaches the matters

improperly asserted as to notch depth, vibrations, and use of unfilled notches being taught to be sought instead of being taught to be avoided.

Besides the fact that Yoshihiko lacks any teaching or suggestion of selecting the number and depth of empty notches 12 “to increase mechanical strength by reducing vibration amplitudes during machine operation,” there is a further error in the new OA as to suggesting the artisan would have some reason to modify Yoshihiko based on Oshima. In this regard, In re Lee, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002) requires that more than a conclusion must be offered as to subjective belief of what is taught. In establishing *prima facie* obviousness, “the reasons one of ordinary skill in the art would have been motivated to select the references and combine them” must be explained. In re Lee, *supra*. The new OA lacks any presentation of reasons why the artisan would look to Yoshihiko and Oshima.

Besides Yoshihiko lacking any teaching or suggestion of selecting the number and depth of the notches 12 “to increase mechanical strength by reducing vibration amplitudes during machine operation,” or any reason for having a notch depth that is much less than the yoke height, Oshima lacks any teachings or suggestions that are logically relevant to modifying the depth of the notches 12 illustrated in Figure 2 of Yoshihiko as noted above.

Accordingly, there has been no valid *prima facie* case established as to this rejection of Claims 1, 3-7, 10-13 and 15 over Yoshihiko in view of Oshima, and this rejection should also be reversed.

Turning to Claims 3 and 5, nothing in either Yoshihiko or Oshima teaches any dependance of vibration amplitude upon notch depth and number, much less the claimed relationship of notch numbers to slot numbers. Once again reliance upon In re Boesch is inappropriate in view of In re Antonie and the rejection of Claim 3 with its requirement for the number of notches to be twice the number of slots and that of Claim 5 with its

requirement for an equal number of slots and notches is clearly improper based on the evidence of Yoshihiko and Oshima.

Accordingly, a valid *prima facie* case is once more lacking and a reversal of this rejection of Claims 3 and 5 is in order.

With regard to the rejection of Claims 4 and 6 over Yoshihiko in view of Oshima, it is clear that neither of these references suggest any reason to provide a notch depth of around 20% of yoke height when the number of notches is set twice the number of slots (Claim 4) or any reason to provide a notch depth of around 40% of yoke height when the number of notches is set equal to the number of slots (Claim 6). While Yoshihiko suggests that a large number of open notches filled with air creates an unwanted force wave having a frequency determined by the number of such notches, this is further taught to be a problem to be avoided by use of the taught filler. As noted above, Fine indicates that this pointing away cannot be used as a teaching of using the air filled slots, much less as a teaching of optimizing them in some manner related to their numbers and depths to reduce the very problem they are said to cause.

Accordingly, reversal of the rejection of Claims 4 and 6 on this ground is also clearly in order.

With further regard to the rejection of Claims 7 and 10-13 that each require the slot width to be between .5 mn and 1 mn, it is again noted that Antonie controls. Without some suggestion that varying slot width would produce any optimization to reduce the vibration amplitudes as claimed, there is no *prima facie* case of obviousness here, and a reversal is once more required.

Moreover, Claim 10 includes the Claim 3 requirement as to the relationship of numbers of slots and notches, Claim 11 includes the Claim 4 notch depth and Claim 3

number relationship, Claim 12 includes the Claim 5 relationship of numbers of notches and slots, and Claim 13 includes this Claim 5 subject matter and that of Claim 6 as to notch depth, none of which has been shown or alleged to be taught or suggested by either of the applied references.

Accordingly, as the optimization rationale has no basis from the teachings and suggestions of Yoshihiko and Oshima as to the subject matter of Claim 7 and 10-13 and no valid *prima facie* case has been established, which requires reversal of this rejection.

#### C. HERSHBERGER CURES NO DEFICIENCIES IN YOSHIHIKO OR OSHIMA

Applicants note that Hershberger is concerned with a stator for a single-phase induction electric motor. It is in such a machine that Hershberger suggests that at least two different coil groups are disposed in the slots with these coils arranged symmetrically about an axis to form a corresponding number of magnetic poles. Note col. 2, lines 44-49 of Hershberger. Hershberger also teaches that the stator yoke section at each pole will include magnetic restriction means which is clearly disclosed to be the elongated slot that must extend transversely across the yoke section "in association with a preselected coil accommodating slot spaced at a predetermined electric angle  $\theta$  from each coil group axis in the rotational direction of the revolvable member." See col. 2, lines 50-55. The purpose is further disclosed to be to provide a high reluctance in the magnetic path of the quadrature axis flux to effect a phase shift in the flux components during starting conditions. See col. 2, lines 59-62 of Hershberger.

It is with consideration of this background that Hershberger suggests that slots 32 are to be provided so that the innermost portion 34 terminates adjacent to the center of a preselected slot. In addition, col. 5, lines 1-6 of Hershberger indicate that the enlargement of the end 34 is so that the very small magnetic bridge 37 that remains between each slot and

each notch can be rapidly saturated while col. 5, lines 15-26 teach the filling of the notches with bonding material 38 to correct the weakness created by the slots that extend from the radial outside to almost the slots 17a themselves that leaves only the narrow magnetic bridge 37.

Accordingly, besides the fact that the attaining of desired rigidity characteristics for the core requires the bonding material 38 to be formed in the slots 32 after the laminations have been aligned, as disclosed at col. 5, lines 20-26 as noted above, it is clear that the slots must extend almost into engagement with the coil slots 17a and do not have any function of reducing the natural frequency of the laminated stator body and that the aim of slot ends has nothing to do with reduction of vibrations. Moreover, it would be clearly impossible to meet the design and operation goals of Hershberger without the provision of this bonding material 38 in each transverse notch 32 that extends almost into engagement with the winding slots 17a so as to leave at most a very narrow bridge portion 37 between the notches 32 and the slots 17a, all to improve starting performance as further noted at col. 5 lines 27-52 of Hershberger.

The embodiment of Figure 6 of Hershberger goes even further and requires the notches 32 to extend "entirely across the yoke section in direct communication with the preselected coil slot 17a" and the use of bonding material 38 is clearly still required for strengthening the weakened core. See col. 7, lines 25-29 of Hershberger.

Finally, the reasonable basis to modify Yoshihiko and/or Oshima to include the dimensions of the unrelated slots of Hershberger or the adding of relief openings 34 of Hershberger is completely lacking. As noted in Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985):

Presuming *arguendo* that the references show the elements or concepts urged by the examiner, the examiner has presented no line of reasoning, and

we know of none, as to why the artisan viewing only the collected teachings of the references would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. In the instant application, the examiner has done little more than cite references to show that one or more elements, or subcombinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to a combination of elements. That is to say, appellant does not claim that he has invented one or more new elements, but has presented claims to a new combination of elements. To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

This pronouncement by the board clearly parallels that of the court in In re Kotzab, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) as to the need to set forth convincing and logical reasoning why the artisan, with no knowledge of the claimed invention, would have selected the claimed elements for combination in the manner specified by the claims. In re Kotzab, supra also requires that prior art disclosures must be interpreted in the context of the entire reference disclosure as to what is actually taught, not abstractly in a vacuum.

Here, the new OA commits further error as to Claim 2 subject matter by attempting to take the teachings of Hershberger abstractly divorced from the underlying context of the full teaching of Hershberger which is improper under Kotzab as well as In re Wasslau, 147 USPQ 391, 393 (CCPA 1965)("impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art."). This improper approach to establishing obviousness means that this rejection of Claim 2 should be reversed.

Claim 7 depends on Claim 1 and requires that the notches have a width of between 0.5 mm and 1 mm. Claim 9, on the other hand, depends on Claim 2 and also requires that the notches have a width of between 0.5 mm and 1 mm. Claim 8 depends on Claim 2 and

requires a number of notches not taught by any reference applied here. Claim 10 depends on Claim 3 and also requires a number of notches not taught. While Hershberger teaches a slot width of about between 0.01 inch to 0.030 inch for slots 32, these are magnetic restriction slots that extend all the way from an outer periphery of the stator to the top of winding slots 17 a and are structurally and functionally dissimilar to notches 12 of Yoshihiko. The required reasoning as to why the artisan viewing only the collected teachings of the references would have found it obvious to selectively pick and choose the width of a slot 32 from Hershberger to modify the dissimilar slots of Yoshihiko in further view of the lamination teachings of Oshima to arrive at the claimed invention is again missing.

Claim 11 depends on Claim 4 and requires a notch depth not taught by any of the applied references. Similarly, Claim 12 depends on Claim 5 and requires a particular number of slots while Claim 13 depends on Claim 6 and requires a notch depth neither of which are taught by any of Yoshihiko, Oshima or Hershberger.

Consequently, the rejection of Claims 2 and 7-13 under 35 U.S.C. §103(a) as being unpatentable over Yoshihiko in view of Oshima and further in view of Hershberger is also clearly contrary to established controlling precedent and should be reversed for the reasons set forth above.

#### D. SACHER CURES NO DEFICIENCIES IN THE OTHER REFERENCES

The new OA relies upon teachings found in Sacher and argues that these teachings would be applied to the notches 12 of Yoshihiko modified by the lamination teachings of Oshima. The new OA once again ignores that the notches 12 of Yoshihiko are for an entirely different purpose in an entirely different machine relative to the notches 13 of Sacher that are provided in the stator of a DC machine to mechanically decouple poles. The above noted

quotation from Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985) is again believed to be relevant as are In re Kotzab and In re Wasslau as to the impermissibility of taking reference teachings totally out of context to recreate the claimed invention without concern as to evidence establishing proper motivation.

Consequently, the rejection of Claims 3 and 5 under 35 U.S.C. §103(a) as being unpatentable over Yoshihiko in view of Oshima and further in view of Sacher is also clearly improper under the controlling precedent and should also be reversed for the above noted reasons.

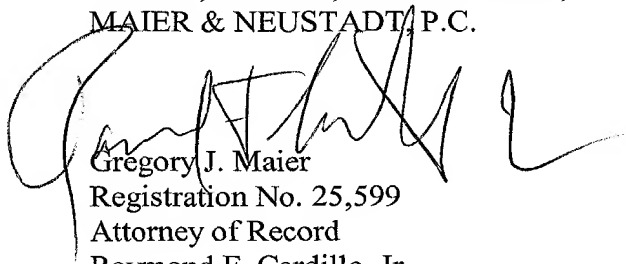
With regard to the rejection of Claim 14 under 35 U.S.C. §103(a) as being unpatentable over Yoshihiko in view of Oshima, Sacher, and Hershberger, it is again noted that Sacher cures no deficiencies in the other references and that the new OA fails to present any reasonable rationale complying with the above-noted precedent that establishes evidence of a suggestion, teaching, or motivation to combine the disparate teachings of the relied upon references, much less the In re Lee required reasoning why these references would even be selected in the first place. Consequently, this rejection applied to Claim 14 is also clearly improper under the controlling precedent and must also be reversed.

CONCLUSION

The rejections applied to Claims 1-15 should all be reversed as being clearly improper under the controlling precedent for the above-noted reasons.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



Gregory J. Maier  
Registration No. 25,599  
Attorney of Record  
Raymond F. Cardillo, Jr.  
Registration No. 40,440



**22850**

(703) 413-3000  
Fax #: (703) 413-2220  
GJM:RFC:jmp:fb1

## APPENDIX

1. A laminated stator body for an electrical machine, which laminated stator body is composed of a multiplicity of segmental laminations, each segmental lamination being provided on a radial inside with slots for accommodating conductors of a stator winding, each slot extending from the radial inside to a root portion nearest to a radial outside of each segmental lamination, with the portion of each segmental lamination remaining between the root portion and the radial outside defining a yoke height, wherein each segmental lamination is provided on the radial outside with periodically distributed notches all of equal dimensions including a notch depth that is much less than yoke height, with the number and depth of the notches being selected to increase mechanical strength by reducing vibration amplitudes during machine operation, the notches and slots of actually adjacent segmental laminations in the laminated stator body being arranged in alignment with one another to form said laminated stator body, said notches being filled only with an atmosphere surrounding said laminated stator body.

2. The laminated stator body as claimed in Claim 1, wherein the notches end in a relief opening at their radially inner end.

3. The laminated stator body as claimed in Claim 1, wherein the number of notches is twice as great as the number of slots.

4. The laminated stator body as claimed in Claim 3, wherein the notch depth is on the order of magnitude of 20% of the yoke height.

5. The laminated stator body as claimed in Claim 1, wherein the number of notches is equal to the number of slots.

6. The laminated stator body as claimed in Claim 5, wherein the notch depth is on the order of magnitude of 40% of the yoke height.

7. The laminated stator body as claimed in Claim 1, wherein the notches have a width of between 0.5 mm and 1 mm.

8. The laminated stator body as claimed in Claim 2, wherein the number of notches is twice as great as the number of slots.

9. The laminated stator body as claimed in Claim 2, wherein the notches have a width of between 0.5 mm and 1 mm.

10. The laminated stator body as claimed in Claim 3, wherein the notches have a width of between 0.5 mm and 1 mm.

11. The laminated stator body as claimed in Claim 4, wherein the notches have a width of between 0.5 mm and 1 mm.

12. The laminated stator body as claimed in Claim 5, wherein the notches have a width of between 0.5 mm and 1 mm.

13. The laminated stator body as claimed in Claim 6, wherein the notches have a width of between 0.5 mm and 1 mm.

14. The laminated stator body as claimed in Claim 2, wherein the number of notches is equal to the number of slots.

15. The laminated stator body as claimed in Claim 1, wherein the atmosphere is air.